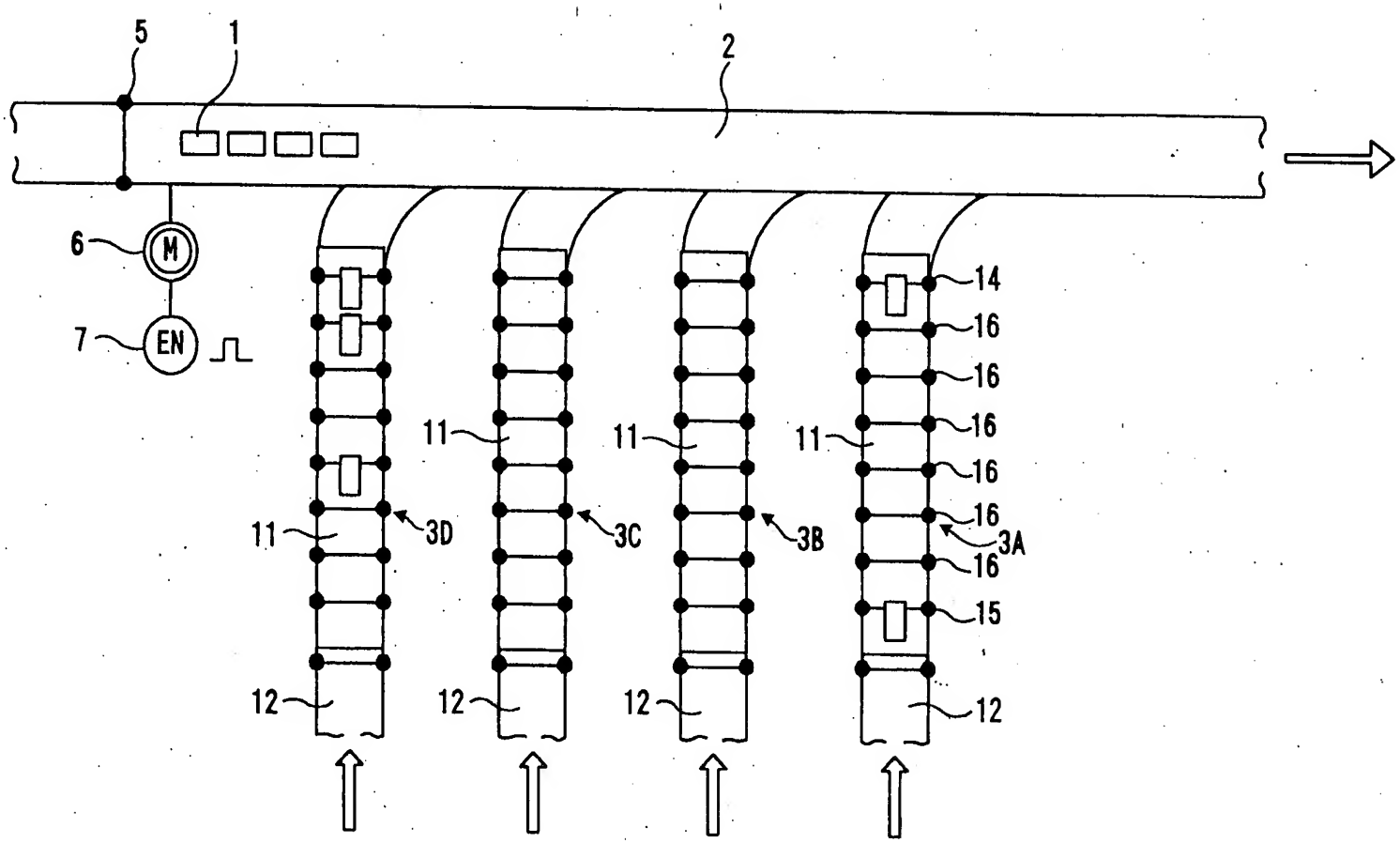
FIG. 1



10/047,268

FIG.2

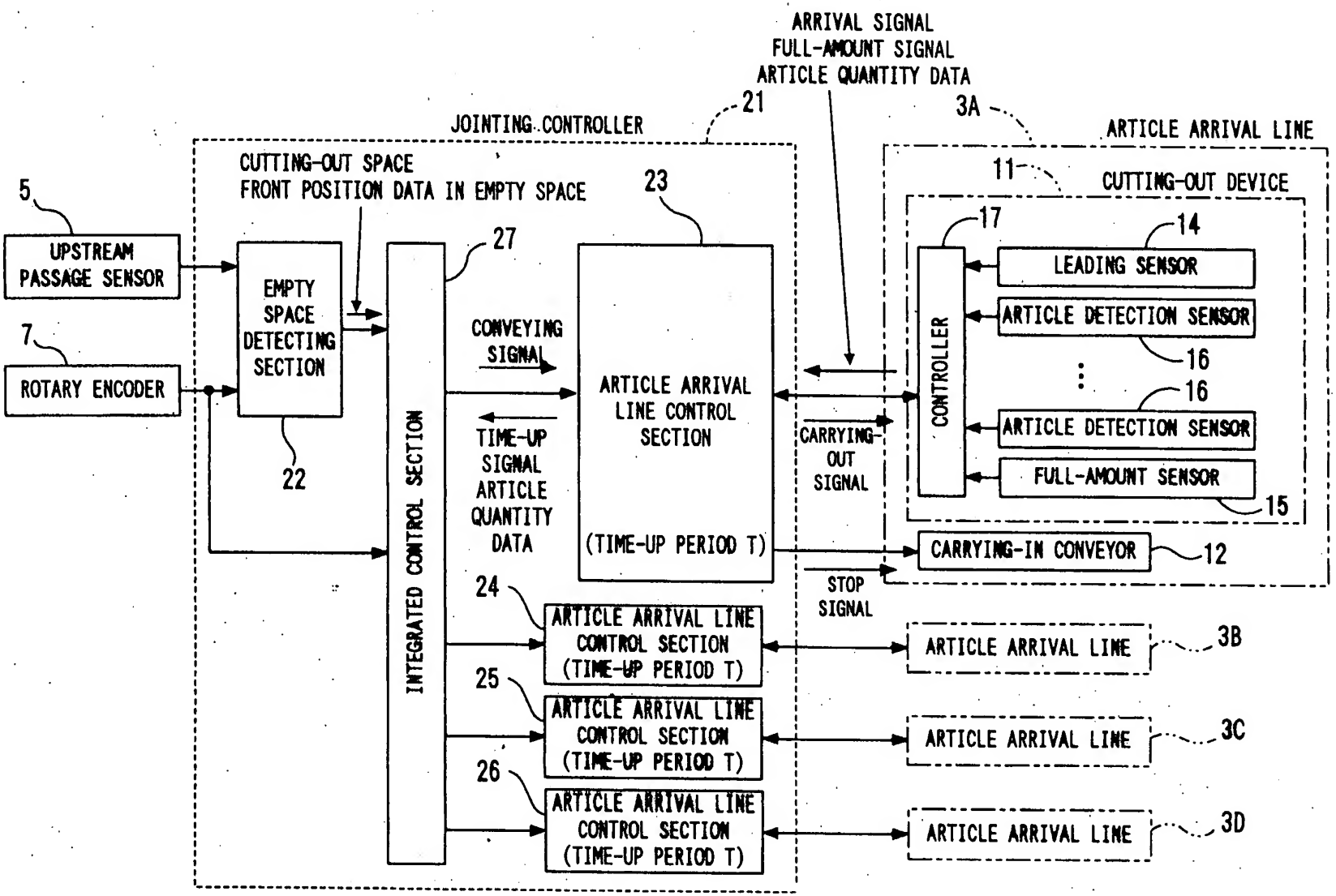
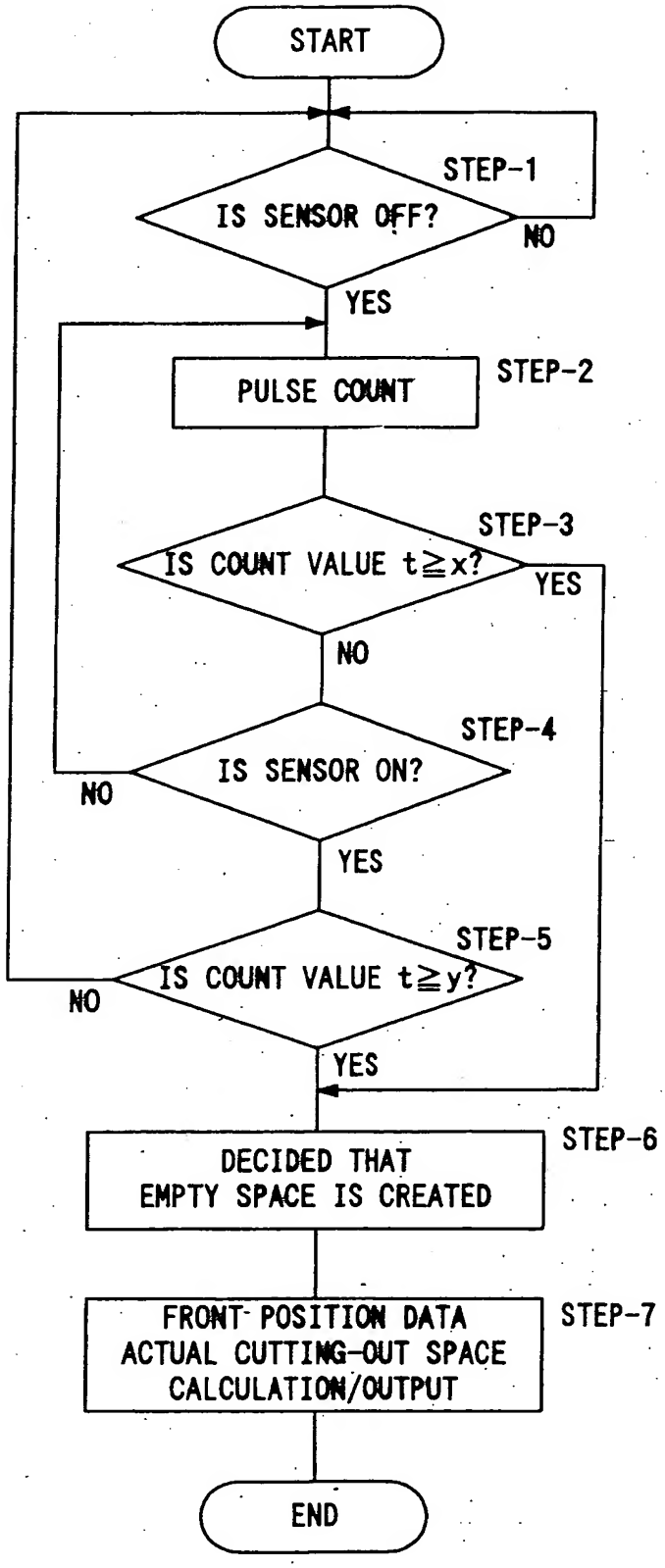
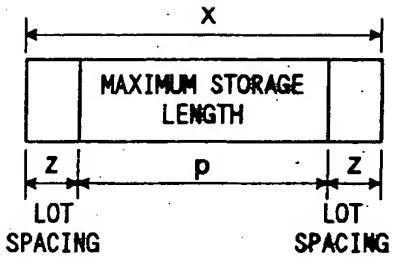

ARRIVAL SIGNAL
FULL-AMOUNT SIGNAL
ARTICLE QUANTITY DATA
21
JOINTING CONTROLLER
3A
ARTICLE ARRIVAL LINE
11
CUTTING-OUT DEVICE
CUTTING-OUT SPACE
FRONT POSITION DATA IN EMPTY SPACE
23
5
UPSTREAM PASSAGE SENSOR
7
ROTARY ENCODER
EMPTY SPACE DETECTING SECTION
22
27
INTEGRATED CONTROL SECTION
CONVEYING SIGNAL
TIME-UP SIGNAL ARTICLE QUANTITY DATA
ARTICLE ARRIVAL LINE CONTROL SECTION
(TIME-UP PERIOD T)
CARRYING-OUT SIGNAL
17
CONTROLLER
14
LEADING SENSOR
ARTICLE DETECTION SENSOR
16
16
ARTICLE DETECTION SENSOR
FULL-AMOUNT SENSOR
15
CARRYING-IN CONVEYOR
12
STOP SIGNAL
24
ARTICLE ARRIVAL LINE CONTROL SECTION (TIME-UP PERIOD T)
ARTICLE ARRIVAL LINE
3B
25
ARTICLE ARRIVAL LINE CONTROL SECTION (TIME-UP PERIOD T)
ARTICLE ARRIVAL LINE
3C
26
ARTICLE ARRIVAL LINE CONTROL SECTION (TIME-UP PERIOD T)
ARTICLE ARRIVAL LINE
3D

FIG.3


START
STEP-1
IS SENSOR OFF?
NO
YES
PULSE COUNT
STEP-2
STEP-3
IS COUNT VALUE t≧x?
YES
NO
STEP-4
IS SENSOR ON?
NO
YES
STEP-5
IS COUNT VALUE t≧y?
NO
YES
STEP-6
DECIDED THAT EMPTY SPACE IS CREATED
STEP-7
FRONT POSITION DATA ACTUAL CUTTING-OUT SPACE CALCULATION/OUTPUT
END


x
MAXIMUM STORAGE LENGTH
z
p
z
LOT SPACING
LOT SPACING

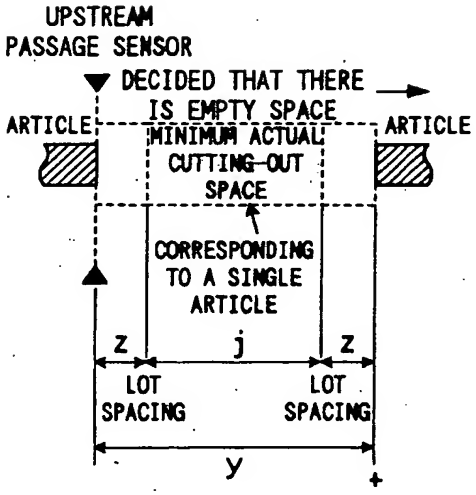

UPSTREAM PASSAGE SENSOR
DECIDED THAT THERE IS EMPTY SPACE
ARTICLE
ARTICLE
MINIMUM ACTUAL CUTTING-OUT SPACE
CORRESPONDING TO A SINGLE ARTICLE
z
j
z
LOT SPACING
LOT SPACING
y

FIG.4a

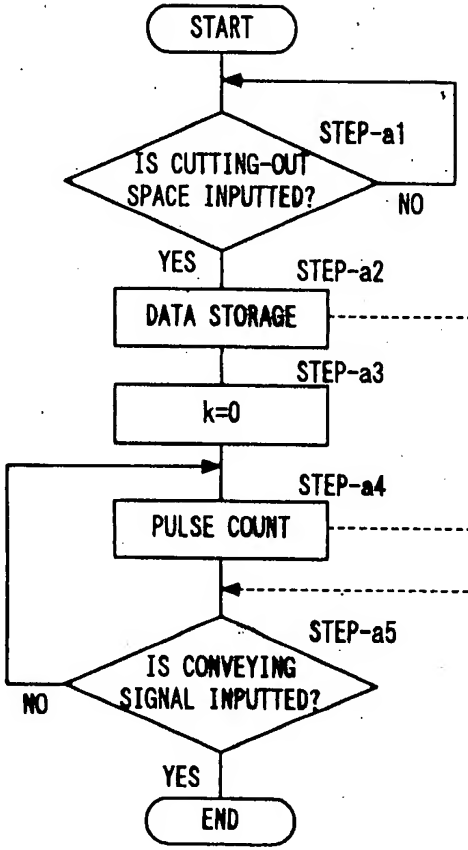

START
STEP-a1
IS CUTTING-OUT SPACE INPUTTED?
NO
YES
STEP-a2
DATA STORAGE
STEP-a3
k=0
STEP-a4
PULSE COUNT
STEP-a5
IS CONVEYING SIGNAL INPUTTED?
NO
YES
END

FIG.4b

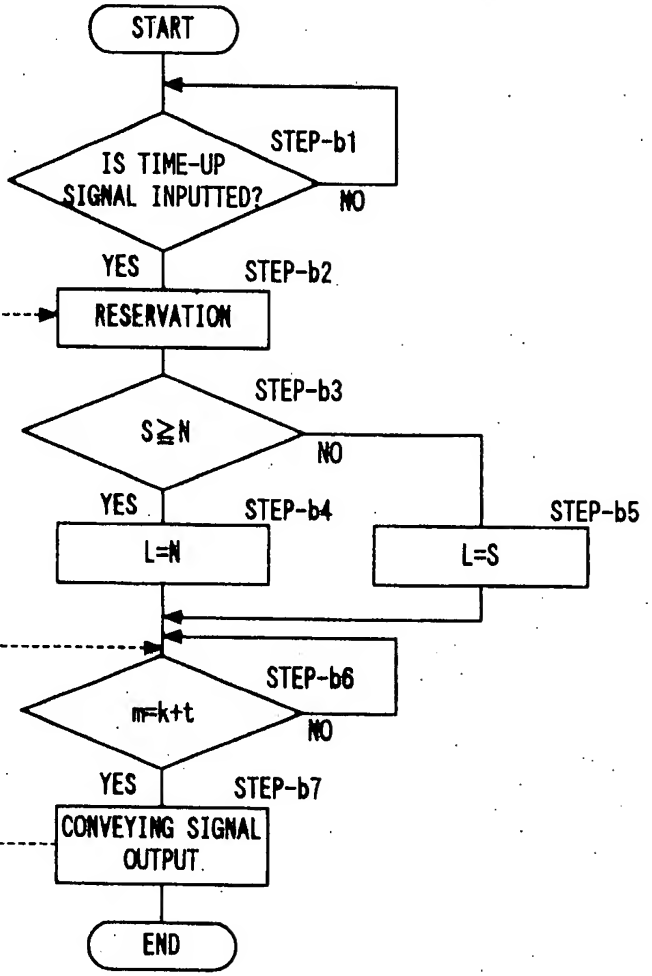

START
STEP-b1
IS TIME-UP SIGNAL INPUTTED?
NO
YES
STEP-b2
RESERVATION
STEP-b3
S≧N
NO
YES
STEP-b4
L=N
STEP-b5
L=S
STEP-b6
m=k+t
NO
YES
STEP-b7
CONVEYING SIGNAL OUTPUT
END
k

FIG.5

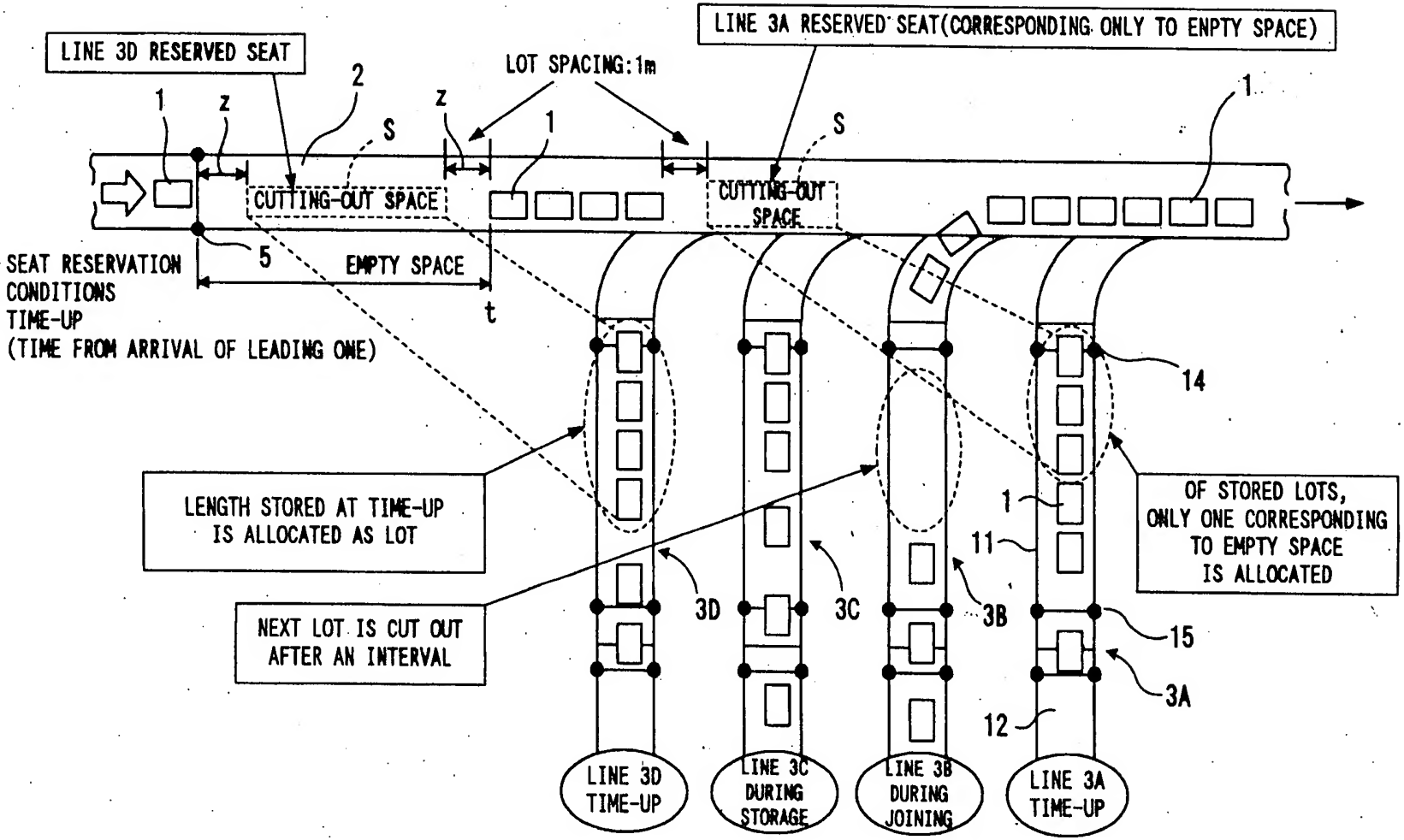

LINE 3D RESERVED SEAT
LINE 3A RESERVED SEAT(CORRESPONDING ONLY TO ENPTY SPACE)
LOT SPACING:1m
CUTTING-OUT SPACE
CUTTING-OUT SPACE
EMPTY SPACE
SEAT RESERVATION CONDITIONS TIME-UP (TIME FROM ARRIVAL OF LEADING ONE)
LENGTH STORED AT TIME-UP IS ALLOCATED AS LOT
NEXT LOT IS CUT OUT AFTER AN INTERVAL
OF STORED LOTS, ONLY ONE CORRESPONDING TO EMPTY SPACE IS ALLOCATED
LINE 3D TIME-UP
LINE 3C DURING STORAGE
LINE 3B DURING JOINING
LINE 3A TIME-UP

FIG.6a

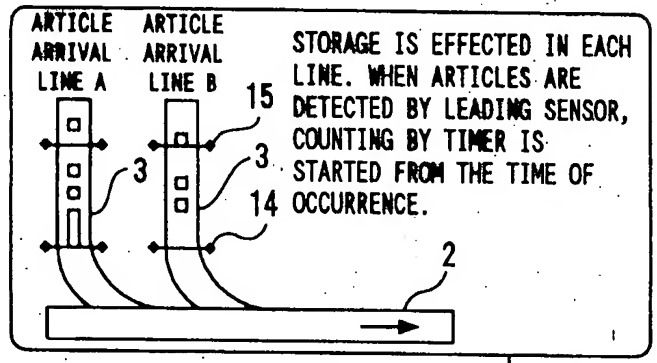


FIG.6b

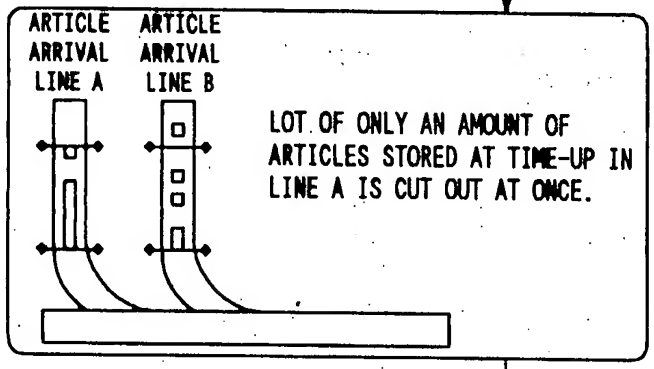


FIG.6c

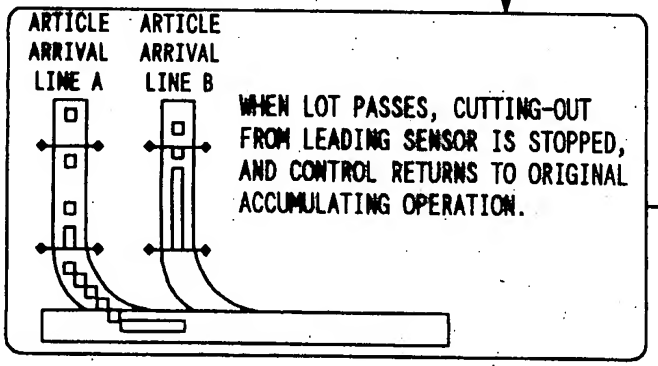


FIG.6d

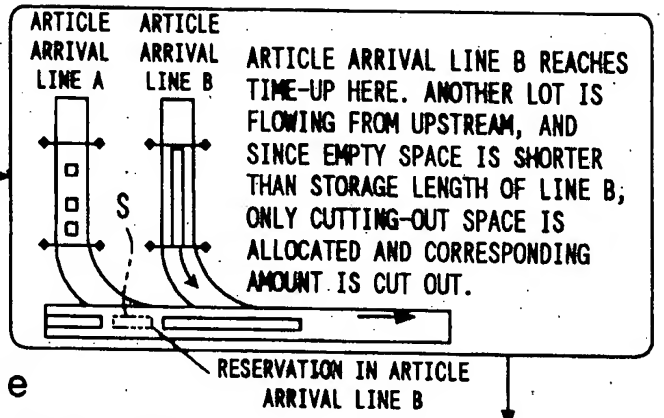


FIG.6e

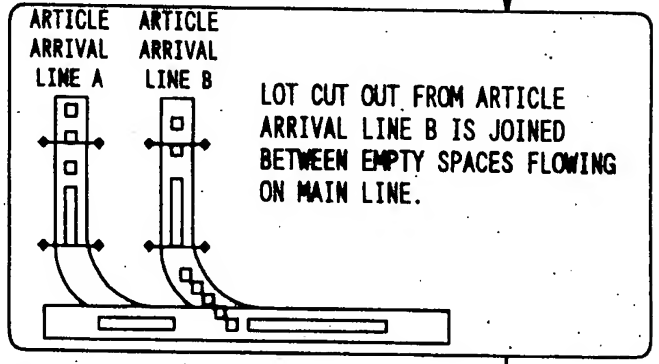
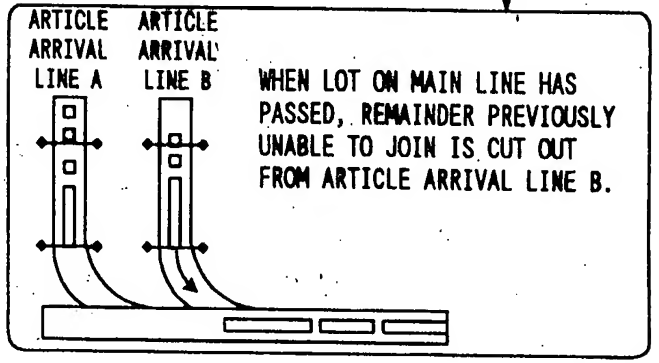



FIG.6f